

FORM PTO-1449 (Rev. 2-32)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO: MDO-2471-U-D1	SERIAL NO.: 09/243,237			
O I P E INFORMATION DISCLOSURE CITATION IN AN APPLICATION <i>APR 07 2000 JC80</i> (Use several sheets if necessary)				APPLICANT: MUKHOPADHYAY, Debasish				
				APPLICATION FILING DATE: 02/02/99	GROUP: 1723			
U.S. PATENT DOCUMENTS								
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE		
<i>AF</i>	3,721,621	03/73	Hough	210	22			
<i>1</i>	3,870,033	03/75	Faylor, et al	126	360R			
	3,953,580	04/76	Allen, et al	423	283			
	3,964,999	06/76	Chisdes	210	23R			
	3,985,648	10/76	Casolo	210	27			
	4,182,676	10/80	Casolo	210	27			
	4,235,715	11/80	Wiegert	210	670			
	4,321,145	03/82	Carlso	210	678			
	4,430,226	02/84	Hegde, et al	210	638			
<i>AF</i> →	4,523,045	07/85	Littmann	210	668			
<i>AF</i>	4,532,047	07/85	Dubin	210	698			
FOREIGN PATENT DOCUMENTS								
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	YES	NO
	50-75987	06/21/75	Japan					
	50-88017	07/15/75	Japan					
	DE1792304	08/28/75	Germany					
	DE2607 737 A1	09/02/76	Germany					
	53/4777	01/17/78	Japan					
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)								
<i>AF</i>		Milstead, C.E. et al, "Rejection of Carbon Dioxide and pH Effects In Reverse Osmosis Desalination." Desalination (1971), pp. 217-223						
<i>AF</i>		Petersen, R.J., et al., "Industrial Applications of the FT-30 Reverse Osmosis Membrane." World Filtration Congress III, 1989, pp. 541-547.						
EXAMINER	<i>A. Bratton</i>			DATE CONSIDERED	<i>7/12/00</i>			
Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								

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<i>AF</i>		4,548,716	10/85	Boeve	210	652		
<i>✓</i>		4,574,049	03/86	Pittner	210	639		
		4,698,153	10/87	Matsuzaki, et al	210	192		
		4,755,298	07/88	Grinstead	210	638		
		4,820,421	04/89	Auerswald	210	670		
		4,824,574	04/89	Cadotte, et al	210	654		
		4,900,450	02/90	Schmidt	210	679		
		4,917,806	04/90	Matsunaga, et al	210	662		
<i>✓</i>		4,969,520	11/90	Jan, et al	166	266		
<i>AF</i>		4,995,983	02/91	Eadie, et al	210	639		
		5,028,336	07/91	Bartels, et al	210	639		
FOREIGN PATENT DOCUMENTS								
							TRANSLATION	
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	YES	NO
<i>AF</i>		54/69579	04/06/79	Japan				
<i>AF</i>		54/83688	07/03/79	Japan				
<i>AF</i>		56/139106	10/81	Japan				
<i>AF</i>		58/118538	07/15/83	Japan				
<i>AF</i>		58/122084	07/20/83	Japan				
		Sho 59-112890 <i>380</i>	06/29/84	Japan				
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)								
<i>AF</i>			Larson, R.E., et al., "Development of the FT-30 Thin-Film Composite Membrane," National Water Supply Improvement Association 9th Annual Conference and International Trade Fair, May 31- June 4, 1981.					
<i>AF</i>			Lee, Eric, K.L., "Novel Composite Membranes," April, 1983.					
EXAMINER	<i>H - Bartels</i>		DATE CONSIDERED			<i>7/14/00</i>		
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<i>AF</i>	5,061,374	10/91	Lewis		210	638		
	5,073,268	12/91	Saito, et al		210	638		
	5,174,901	12/92	Smith		210	652		
	5,236,722	08/93	Schroeder		426	67		
	5,246,586	09/93	Ban, et al		210	638		
	5,250,185	10/93	Tao, et al		210	654		
	5,266,203	11/93	Mukhopadhyay, et al		210	638		
	5,292,439	03/94	Morita, et al		210	638		
	5,338,456	08/94	Stivers		210	652		
<i>V</i>	5,358,640	10/94	Zeiher, et al		210	639		
<i>AF</i>	5,385,664	01/95	Oinuma, et al		210	151		
FOREIGN PATENT DOCUMENTS							TRANSLATION	
	DOCUMENT NUMBER	DATE	COUNTRY		CLASS	SUBCLASS	YES	NO
	Sho 62-204892	09/09/87	Japan					
	Hei 2-207888	08/17/90	Japan					
	2-227185	09/10/90	Japan					
	*Hei 6-49191	06/29/94	Japan					
	DE 196 03 494.9-41	08/07/97	Germany					
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)								
<i>AF</i>			Crabbe, Daniel C.M., "A Double Pass Reverse Osmosis System," September, 1976					
<i>AF</i>			Nakamura, Tadashi, "Seawater Desalination by Reverse Osmosis Process," July/August, 1981.					
EXAMINER	<i>A. Bratton</i>		DATE CONSIDERED				<i>7/12/00</i>	
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<i>AP</i>		5,476,591	12/95	Green	210	638		
		5,529,689	06/96	Korin	210	232		
		5,571,419	11/96	Obata, et al	210	664		
		5,573,666	11/96	Korin	210	232		
		5,670,053	09/97	Collentro, et al	210	652		
		5,695,643	12/97	Brandt, et al	210	652		
<i>AP</i>		5,766,479	06/98	Collentro, et al	210	639		
FOREIGN PATENT DOCUMENTS								
							TRANSLATION	
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	YES	NO
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)								
<i>AP</i>			Cadotte, J., "Evolution of Composite Reverse Osmosis Membranes," 1984.					
			1982 Report on Technological Development for Boiler Water by Reverse Osmosis, Exhibit Ko. No. 1., March, 1983, Fresh Water Generation Promotion Center, pp. 1-11, 45-97					
<i>AP</i>			Handbook of Water Purification, Editor Walter Lorch - London, MacGraw-Hill Cop. 1981, XVIII, 715 p. III.					
<i>AP</i>			Permasep Products Engineering Manual, E.I., du Pont de Nemours & Co., 1982.					
EXAMINER	<i>A. Portman</i>			DATE CONSIDERED		<i>7/12/00</i>		
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						TRANSLATION		
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

AF			Applications for High-Purity-Water Production, Edited by Bipin S. Parekh, 1988.					
AF			Development of FT-30 Membranes in Spiral Wound Modules, October 1982					
AF			Crabbe, Daniel C.M., "A Double Pass Reverse Osmosis System," Industrial Water Engineering, Dec. 76/Jan 77.					
AF			Handbook of Membrane Technology, pp. 184-198, July 15, 1985.					

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A. Portman

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	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

<i>AT</i>			Handbook of Membrane Technology, pp. 26-28, July 15, 1983
			Dyke, F.T., et al, "Removal of Salt, Oil, and Boron From Oil Field Wastewater By High pH Reverse Osmosis Processing", September, 1992
<i>AT</i>			Tao, F.T., et al Conversion of Oilfield Produced Water Into An Irrigation/Drinking Quality Water
			Aronovitch, H. et al, "Weakly Acidic Cation Performance Treating Water Containing High Iron" May/June 1995
<i>CD</i>			Auerswald, D., "Optimizing the Performance of Reverse Osmosis/Continuous Electrodeionization System" May/June, 1996

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